DENR/DEMLR
FACT SHEET FOR NPDES STORMWATER PERMIT MODIFICATION
NPDES No. NCS000575

Facility Information			
Applicant/Facility Name:	Asheville Steam Electric Plant		
Applicant Address:	200 CP&L Drive, Arden, North Carolina 28704		
Facility Address:	200 CP&L Drive, Arden, North Carolina 28704		
Permitted Flow:	N/A (Stormwater Discharges Only)		
Industrial Activities:	Primary SIC Code: 4911 – Electric Services		
Permit Status:	New NPDES Stormwater Permit		
County:	Buncombe County		
Miscellaneous			
Receiving Stream:	Lake Julian and French Broad River	Regional Office:	Asheville
Stream Classification:	C and B Respectively	State Grid / USGS Quad:	
303(d) Listed?	Hg, statewide	Permit Writer:	Matthew Gwinn
Subbasin:	04-03-02	Date:	09/04/2020

Facility Location: Lat. 35° 28' 01" N Long. 82° 32' 13" W

BACKGROUND

Duke Energy's Asheville coal fired steam electric plant was retired in January of 2020. Coal combustion residual (CCR) from the original steam electric plant was collected in an ash basin constructed in conjunction with the original steam electric plant in 1964. The original coal fired steam electric plant has been replaced by a new natural gas burning combined cycle station. In addition to the new combined cycle station, Duke Energy is building a new CCR landfill for removal of CCR from the original 64-ash basin to facilitate the closure of the 64-ash basin. Duke Energy has submitted a modification request that includes the proposed addition of five new stormwater outfalls. Two of these outfalls (SW009 and SW010) will receive discharge from areas associated with the combined cycle station, while the other three outfalls (SW011, SW012, and SW013) will receive discharge from the access roads and coal ash haul road for the new CCR landfill.

Site Map

PROPOSED ADDITIONAL OUTFALLS AND MONITORING REQUIREMENTS

The Division considered potential pollutants from past and present industrial activities (coal-fired electric generation, plant decommissioning, and future ash removal) and data submitted in the modification request received on January 29, 2020. The analytical monitoring requirements under the current permit include priority pollutant metals, TSS, total rainfall, boron, and pH.

Parameters are based on potential pollutants in the drainage area, sampling results, and in some cases, dependent upon future activities (e.g., ash transport and removal throughout the drainage area). Below is a table of the proposed monitoring for each outfall at the Asheville Steam Electric Plant site. Outfalls SW009 and SW010 discharge to a slope that has been stabilized by rip rap and then to a wetland that ultimately flows into the French Broad River. Outfalls SW011, SW012, and SW013 discharge into an unnamed tributary, then to Powell Creek and then to the French Broad River.

The monitoring requirements for outfalls SW009 and SW010 are based on the findings of an on-site inspection conducted by the Asheville Regional Office and documentation provided by the permittee. TSS and pH are common pollutant indicators used to ensure that the BMPs being implemented at the site are effective to reduce pollutants in stormwater discharge. Priority metals and boron are included to ensure that there are no coal or coal ash constituents in the stormwater discharge for outfalls SW009 and SW010. The monitoring for priority metals and boron can be discontinued after two consecutive samples result in the parameter concentrations being below benchmark levels. According to the on-site inspection and documentation provided by the permittee, there should be no coal or coal ash entering the drainage areas of outfalls SW009 and SW010. The goal of testing for coal and coal ash constituents within these drainage areas is to ensure coal or coal ash constituents are not infiltrating the drainage areas for outfalls SW009 and SW010.

The permittee will be allowed to stop sampling for Priority Pollutant Metals and Boron at outfalls SW009 and SW010 after 4 consecutive sampling events with no benchmark exceedances in these parameters.

Stormwater Discharge Outfall (SDO) Monitoring	
SW009 and SW010 New Combined Cycle Station	
Total Suspended Solids (TSS)	**FREQUENCY:** Semi-annual monitoring **BASIS:** Potential pollutant from drainage areas and BMP effectiveness indicator.
pH	**FREQUENCY:** Semi-annual monitoring **BASIS:** Pollutant indicator.
Priority Pollutant Metals Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, and Zn.	**FREQUENCY:** Semi-annual monitoring **BASIS:** Pollutant indicator for coal combustion residual (CCR) constituents.
Boron	**FREQUENCY:** Semi-annual monitoring **BASIS:** Coal combustion residual (CCR) constituent / coal tracer.

The monitoring requirements for outfalls SW011, SW012, and SW013 are based on the findings of an on-site inspection conducted by the Asheville Regional Office and documentation provided by the permittee. TSS and pH are common pollutant indicators used to ensure that the BMPs being implemented at the site are effective to reduce pollutants in stormwater discharge. Priority metals and boron are included to ensure that there are no coal or coal ash constituents in the stormwater discharge for outfalls SW011, SW012, and SW013. The goal of monitoring for priority metals and boron is to confirm that the on-site BMPs are effective in containing coal and coal ash constituents within the drainage areas of outfalls SW011, SW012, and SW013. **The monitoring frequency will be quarterly for SW011, SW012, and SW013 and will be allowed to move to a semi-annual monitoring frequency after four consecutive quarterly monitoring events with no benchmark exceedances post-landfill closure.**

Stormwater Discharge Outfall (SDO) Monitoring	
SW011, SW012, and SW013 *New Coal Combustion Residual Landfill*	
Total Suspended Solids (TSS)	**FREQUENCY:** Quarterly, Semi-annual monitoring **BASIS:** Potential pollutant from drainage areas and BMP effectiveness indicator. Quarterly during coal or CCR transport to ensure proper handling during transport.
Priority Pollutant Metals Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, and Zn.	**FREQUENCY:** Quarterly, Semi-annual monitoring **BASIS:** Pollutant indicator for coal combustion residual (CCR) constituents.
Boron	**FREQUENCY:** Quarterly, Semi-annual monitoring **BASIS:** Coal combustion residual (CCR) constituent / coal tracer.
pH	**FREQUENCY:** Quarterly, Semi-annual monitoring **BASIS:** Pollutant indicator and important to interpreting toxicity potential of metals.

STORMWATER BENCHMARKS AND TIERED RESPONSE

Rather than limits, North Carolina NPDES Stormwater permits contain benchmark concentrations. Stormwater benchmarks are numerical action levels for stormwater

monitoring. **Benchmarks are <u>not</u> effluent limits, and benchmark exceedances are not permit violations.** Benchmarks provide facilities a tool for assessing the significance of pollutants in stormwater discharges and the effectiveness of best management practices (BMPs). Benchmark concentrations are intended as guidelines for the facility's development and implementation of the Stormwater Pollution Prevention Plan (SPPP).

Benchmark exceedances require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater BMPs in a tiered program. The permit establishes a tiered approach to specify actions the permittee must take in response to analytical results above benchmark concentrations (Part II, Section B., following Table 10). The tiered structure of the permit provides the permittee and NCDEMLR wide flexibility to address issues that may arise with one or more parameters and/or outfalls.

Metals benchmarks are calculated to mimic acute water quality standards and with the guidance of NC's Division of Water Resources (DWR). Acute standards protect aquatic life from negative impacts of short-term exposure to higher levels of chemicals where the discharge enters a waterbody. The Stormwater Program uses acute standards because of the ephemeral nature of rainfall events.

NC DWR follows established federal procedures for calculating acute standards when developing the benchmarks. Metals benchmarks normally reflect one half of the calculated Final Acute Value (the "½ FAV"). EPA estimates the FAV by a conducting a statistical analysis of published peer-reviewed acute toxicity data. The FAV is designed to protect 95 percent of the species in the most sensitive genera that has been tested and applying a safety factor of two to protect water quality. In most cases, translation into total recoverable values is based on an assumed hardness of 25 mg/l and a total suspended solids (TSS) concentration of 10 mg/l.

The Division may evaluate monitoring results to determine if a smaller suite of parameters for some outfalls is adequate to characterize potential pollution or BMP effectiveness. For example, one or more metals or other parameters may serve as an adequate tracer for the presence of ash pollution during disturbance or ash removal in specific drainage areas at this site. For parameters that do not have a stormwater benchmark, the Division may develop a benchmark value if appropriate toxicity data become available or if rising trends in concentrations suggest a persistent source. A summary of the benchmarks in the draft permit, and their basis, is below:

Parameter	Benchmark	Basis
Antimony (Sb), mg/L (Total)	0.09	Acute Aquatic Criterion, ½ FAV
Arsenic (As), mg/L (Total)	0.34	Acute Aquatic Criterion, ½ FAV
Beryllium (Be), mg/L (Total)	0.065	Acute Aquatic Criterion, ½ FAV
Cadmium (Cd), mg/L (Total)	0.003	Acute Aquatic Criterion, ½ FAV
Chromium (Cr), mg/L (Total)	0.9	½ FAV, based on (Cr III + Cr VI) acute thresholds and assumption that industrial activities here are not a source of hexavalent chromium.
Copper (Cu), mg/L (Total)	0.010	Acute Aquatic Criterion, ½ FAV
Lead (Pb), mg/L (Total)	0.075	Acute Aquatic Criterion, ½ FAV

Parameter	Benchmark	Basis
Mercury (Hg), ng/L (Total)	N/A	Monitoring only, CCR/Coal Constituent. Hg influenced by regional transport and wet deposition. Values above 12 ng/L (NC WQ standard) should be noted on the DMR but do not trigger Tier Responses.
Nickel (Ni), mg/L (Total)	0.335	Acute Aquatic Criterion, ½ FAV
Polychlorinated biphenyl compounds (PCBs), µg/L	Detected	NC Water Quality Standards vs. present Arochlors quantitation levels (higher than standard)
Selenium (Se), mg/L (Total)	0.056	½ FAV, NC-specific, based on 1986 Study on Se impacts in North Carolina
Silver (Ag), mg/L (Total)	0.0003	Acute Aquatic Criterion, ½ FAV. (The Division notes this value is below the practical quantitation level (PQL) of 1 µg/L of EPA Method 200.8)
Boron (B), mg/L	N/A	Monitoring only, CC R/Coal Constituent. Narrative National Recommended Water Quality Criterion.
Thallium (Tl), mg/L (Total)	N/A	Monitoring Only, CCR/Coal constituent. National Recommended Human Health Criterion.
Zinc (Zn), mg/L (Total)	0.126	Acute Aquatic Criterion, ½ FAV
Total Suspended Solids (TSS), mg/L	100	National Urban Runoff Program (NURP) Study, 1983
Non-Polar Oil & Grease, *EPA Method 1664 (SGT-HEM)*, mg/L	15	Review of other state's daily maximum benchmark concentration for this more targeted O&G; NC WQ Standard that does not allow oil sheen in waters.
pH	6-9	NC Water Quality Standard (Range)

MERCURY MONITORING REQUIREMENTS

The proposed permit requires mercury to be measured in stormwater samples by EPA Method 1631E, which can detect levels as low as 0.5 ng/l. This requirement is consistent with recent federal rule-making that requires NPDES permittees to monitor discharges with sufficiently sensitive test procedures approved under 40 CFR §136. Modifications to 40 CFR §122.44(i) require a method that has a minimum level (ML) at or below the effluent limit (not applicable here), or the lowest minimum level (ML) of EPA approved analytical methods for the measured parameter. Based on results, Method 1631E will be required to quantify levels in these discharges. NC DEMLR understands that this method is more costly and requires a more intensive sampling protocol than most other parameters, and that fish tissue sampling will be provided during the permit cycle. Therefore, no benchmark applies that would trigger tiered response actions. Proposed permit provisions also allow the permittee to use field blank and/or method blank concentrations to adjust reported mercury levels as long as documented is submitted with the Data Monitoring Report (DMR).

PROPOSED SCHEDULE FOR PERMIT ISSUANCE:

Draft Permit to Public Notice: September 28, 2020
Permit Scheduled to Issue:December 15, 2020

STATE CONTACT:

If you have any questions about any of the above information or the attached permit, please contact Aana Gamble at (919) 707-3648 or aana.gamble@ncdenr.gov